

is, as in Parrots and many of their nearest allies, coincident with the upturned, somewhat bifurcate episternal process. This is perfectly normal; for the keel, the episternal process, and the coracoid grooves really belong to the shoulder-girdle; together they form the true episternum or manubrium. This might be called "omo-sternum," in contradistinction to the rib-sternum ("pleuro-sternum"), or that which relates to the *inner* cartilaginous belts, which grow directly from the *centra* of the vertebræ*. The furcular bone is only apparently simple, although in this specimen of *Microglossa* no sutures can be seen. In the Ash-coloured Parrot (*Psittacus erythacus*), however, and in the East-Indian *Palæornis torquata*, the thick, broad end of each ramus is seen to be a separate piece. This is also to be seen in the Toucan (*Ramphastos toco*) and in the Kingfisher (*Alcedo ispida*), but is still better developed in all the "Raptors" and Totipalmatæ, in the *Balæniceps* and *Umbretta*, and, in a less degree, in most typical Herons. I have already spoken of this part (P. Z. S. 1864, p. 339 *et seq.*), and may now say that it is a rudiment of the so-called "clavicle" of the Batrachian, Chelonian, and African Ostrich, and is well seen as a distinct bone in the shoulder-girdle of the Salmon tribe and some other allied Fishes. In Birds this rudiment is *proximal*; in Mammals, generally, it is *distal* or *sternal*; but I have found such a piece at both ends of the clavicle in certain Insectivora, *e. g.* the Mole (*Talpa europæa*), and in the Shrew (*Sorex tetragonurus*). In Lizards the counterpart of this cartilage is the anterior boundary of the coraco-acromial fenestræ. The supposed rudiment of the clavicle in certain small Parrots, *e. g.* the Love-Bird (*Agapornis pullaria*) and the Grass-Parakeet (*Melopsittacus undulatus*), is an ossification of this acromial cartilage. In *Psephotis multicolor* neither this nor the furcular bone is present.

4. NOTE ON THE BREEDING OF A GROUND-PIGEON IN THE SOCIETY'S MENAGERIE. BY P. L. SCLATER, M.A., PH.D., F.R.S., SECRETARY TO THE SOCIETY.

In the 'Proceedings' of this Society for 1863 (p. 377) I gave a short notice of a Ground-Pigeon of the genus *Phlogænas*†, of which the Society had then recently received four living examples, together with a figure of the bird drawn from life (pl. xxxiv.), and, supposing it to be undescribed, proposed to call it *Phlogænas bartletti*. One of these fine birds having recently died, an opportunity has occurred of making a more careful examination of it than was possible when the bird was alive.

* I would remark that, to trace the affinities of the Parrot tribe, we should take such forms as the Common Grey Parrot (*Psittacus erythacus*), *Nestor*, *Psephotis*, &c., in which the Psittacine characters are somewhat enfeebled. I have not found any other "family" so isolated as this.

† This term is written by Reichenbach (its proposer) *Phlegænas*; but *Phlogænas* (φλογὸς and οἶνός) would seem to be more correct.

I now find that the species is not new to science, but has been already described some years since. It is the *Pampusanna criniger* of Pucheran, in the "Zoologie" of the 'Voyage au Pôle Sud' (iii. p. 118), and is figured in the Atlas of the same work (pl. 27. fig. 2). It must therefore stand as *Phlogœnas crinigera*, Pucheran*. Its native country is "Soog," one of the Sooloo Islands. A single specimen of it is in the Paris Museum. The difficulty of recognizing living birds, and the want of the 'Voyage au Pôle Sud' in the Society's library, are the only excuses I can offer for having given a second name to this species.

As I have already stated, four specimens of this beautiful Pigeon were purchased by Mr. Bartlett at Liverpool, in August 1863. In the following spring the single male paired with one of the three females, and bred five times during the summer of 1864. The female deposited only one egg on each occasion, making a very slight nest of small sticks in a flat basket placed 8 feet above the ground in the Western Aviary. The period of incubation was fifteen days. Two of the young birds were successfully reared, and are now in adult plumage; two others died immature, and are now in the British Museum. On the remaining occasion the egg was addled.

The bird I now exhibit is the breeding female, which unfortunately died a short time since; but as the old male has mated with another female, and the young male likewise shows symptoms of wishing to pair, there seems every prospect of continuing to propagate this highly interesting species in our aviaries.

It is generally supposed that all the Columbæ lay *two* eggs each time they breed, but this is certainly not the case. The Passenger Pigeon (*Ectopistes migratorius*), the Grey Pigeon (*Columba maculosa*), the Naked-eyed Pigeon (*C. gymnophthalma*), and the two Crowned Pigeons (*Goura coronata* and *G. victoriæ*†) all lay but one egg when they breed in our aviaries; and I suspect this is the case with other species.

Although I have paid no special attention to the birds of the order Columbæ, I may take this opportunity of remarking that I consider Bonaparte in error in separating, so far as he has done, the Ground-Pigeons of the New World (*Starnænas* and *Geotrygon*‡) and their allies from those of the Old. The habits, attitudes, and *poses* of the members of the two groups (for instance, those of *Geotrygon sylvatica* and *Phlogœnas crinigera*) are very noticeably similar; and I know of no material difference in their structure.

The sterna of these two species also present a great resemblance, and differ from those of the typical Columbæ (*C. œnas*, *C. palumbus*, &c.) in several particulars. The rami of the furcula are much more slender, the hyposternal processes more elongate, and the outer

* Cf. Bp. Consp. ii. p. 88.

† Compare Mr. Mitchell's notes on the breeding of this species, P.Z.S. 1849, p. 170.

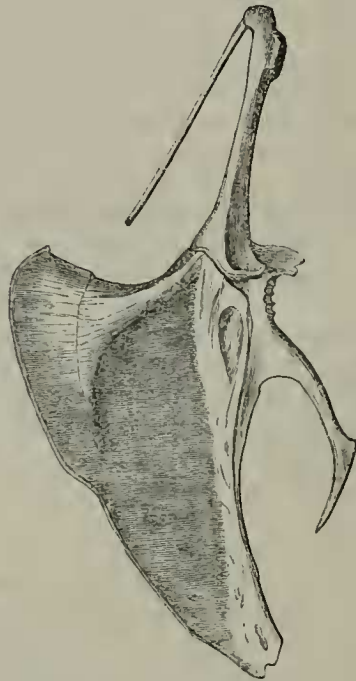
‡ I see no grounds for retaining these two genera as distinct. The "Mountain-Witch" of Jamaica (*Geotrygon sylvatica*, Gosse) cannot, in my opinion, be separated generically from the *Starnænas cyanocephala* of Cuba.

fissure is extended much further towards the anterior extremity of the sternum, and so increased in width as to leave the body of the sternum very narrow, and to give it altogether a much more elongated outline. These peculiarities will be at once evident upon examination of the accompanying figures, which represent the sternum of *Phlogœnas crinigera* (fig. 1 from above, and fig. 2 from one side). On one side it will be noticed that the small inner fissure has closed up, leaving only a small foramen. This is the normal form in the more typical *Columbæ*; but in *Treron*, *Goura*, and *Carpophaga*, as far as I am acquainted with the structure of their forms, the fissures remain permanently open.

Fig. 1.



Fig. 2.

Sternum of *Phlogœnas crinigera*.

5. OBSERVATIONS ON THE ANATOMY OF NYCTICEBUS TARDIGRADUS. BY ST. GEORGE MIVART, F.L.S., LECTURER ON COMPARATIVE ANATOMY AT ST. MARY'S HOSPITAL; AND JAMES MURIE, M.D., FORMERLY ASSISTANT IN THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS, LONDON.

The careful and elaborate joint memoir on the genus *Stenops*, by Professors J. L. C. Schroeder Van der Kolk¹ and W. Vrolik,

¹ "Recherches d'Anatomie comparée sur le genre *Stenops* d'Illiger," in 'Bijdragen tot de Dierkunde, uitgegeven door het Koninklijk zoologisch Genootschap.' Erste Deel. Amsterdam, 1848-1854.